

### **REMARKS/ARGUMENTS**

Claims 1-4, 6-13 and 15-21 stand rejected, with claims 5 and 14 objected to in the outstanding Official Action. However, it is noted that on page 4, section 7 of the Official Action, claims 2, 3, 5, 14 and 21 are indicated as containing allowable subject matter and would be in condition for allowance if rewritten in independent form. Applicants have added newly written claims 24-27 corresponding to claims 2, 3, 5 and 14 rewritten in independent form. Accordingly, claims 1-6, 8-21 and 24-27 are the only claims remaining in this application.

The Examiner's indication of PTO acceptance of the previously filed formal drawings is very much appreciated. Additionally, the Examiner's acknowledgment of Applicants' claim for foreign priority and receipt of the certified copies of the priority documents is very much appreciated.

On page 2, section 2 of the Official Action, claims 1, 4, 7, 13 and 15-19 stand rejected under 35 USC §102 as being anticipated by Setlur (Appl. Phys. Lett., 69(3), p. 345). The Court of Appeals for the Federal Circuit has noted in the case of *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 USPQ 481, 485 (Fed. Cir. 1984) that "[a]nticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Applicants have amended independent claim 1 and dependent claims 5 and 6 to recite the step of "providing a vapor of molecules" rather than the previously described "fluid of molecules" where "fluid" could encompass both the liquid and vapor states of molecules.

The Setlur reference at page 345, right-hand column, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs, discloses a hydrogen-arc method for the formation of nanostructures and a method for analyzing the products formed by the hydrogen-arc method. The remainder of the Setlur reference discloses an

analysis of the nano-products formed by the hydrogen-arc method, but does not describe the method in any further detail. Thus, the only method disclosed in Setlur is a single step method, i.e., a chamber filled with pure hydrogen utilizes two graphite rods as electrodes and an arc is generated whereby the nanomaterials are formed comprised of “copper filled nanotubes.”

There appears to be no disclosure in Setlur of Applicants’ claimed four-step method, i.e., “providing an arrangement of nanoparticles,” “providing a vapor of molecules,” “depositing at least some second material from said vapor of molecules” and “assembling more of said first material from said nanoparticles.” The Setlur method includes the single step of providing an arc in a hydrogen atmosphere with the arc being between graphite rods and a copper rod. Even if the products produced by the method of Setlur were similar to the products created by Applicants’ independent method claim 1 (and this is doubtful), the method of forming those products is substantially different from that disclosed in method claim 1 and also that disclosed in method claim 20.

If the Examiner is contending that Setlur’s disclosure of a copper rod being inserted into a hole in a graphite electrode meets the subject matter of Applicants’ claims, he is respectfully requested to indicate where Setlur discloses the step of providing “an arrangement of nanoparticles comprising a first material.” Additionally, while Setlur discloses a hydrogen atmosphere, where does Setlur disclose Applicants’ claimed second method step “providing a vapor of molecules” (claim 1) or “providing a fluid of molecules” (claim 20). It is later noted in the claim that those molecules are a second material and it is in Applicants’ third step of “depositing” some of the second materials onto an exterior surface of the nanoparticles that is clearly missing from Setlur.

Setlur uses a 2 cm long 6 mm diameter copper rod from which nanostructures are purportedly formed (see page 345, column 2, lines 20-22) in Setlur). Where or how the Examiner believes Setlur teaches any, let alone all, of the limitations of Applicants' independent claim 1 is not seen and specific clarification is respectfully requested. Absent an identification of all claimed method steps set out in Applicants' independent claim 1, any further rejection of claim 1 and claims 4, 7, 13 and 15-19 ultimately dependent thereon under 35 USC §102 is respectfully traversed.

Claims 6 and 8-11 stand rejected under 35 USC §103 as unpatentable over Setlur in view of Murakami (U.S. Patent 4,983,244). Inasmuch as claims 6 and 8-11 all depend from independent claim 1 (directly or indirectly), the above comments distinguishing claim 1 from the Setlur reference are herein incorporated by reference. Moreover, it is not seen as to how the Examiner believes that Murakami teaches the method steps of independent claim 1 which are clearly missing in the Setlur reference. Should the Examiner contend that any of these steps are disclosed by Murakami, he is respectfully requested to identify the location of such steps in the Murakami reference. Without such specific indication, it is clear that the Setlur/Murakami combination of references does not disclose all method steps set out in independent claim 1, let alone the steps contained in claims 6 and 8-11. Accordingly, even if Setlur and Murakami are combined, they do not disclose all steps set out in Applicants' independent claim 1 or claims 6 and 8-11 dependent thereon and therefore there is no *prima facie* case of obviousness of these claims over the Setlur/Murakami combination.

Moreover, it is noted that the Examiner merely provides a conclusory statement as to the reasons for picking and choosing elements from the Setlur and Murakami references and then combining them in a manner disclosed only in Applicants' independent claim 1. Thus, the

Examiner has failed to establish a *prima facie* case of obviousness under 35 USC §103 and any further rejection of claims 6 and 8-11 is respectfully traversed.

The Examiner's indication on page 4, section 7 of the Official Action that claims 2, 3, 5, 14 and 21 contain allowable subject matter and would be allowable if rewritten in independent form is very much appreciated. Claim 2 has been rewritten in independent form as newly written claim 24 and should therefore be allowable. Claim 25 is identical to claim 3, but dependent on claim 24 and therefore it should be allowable. Newly written claim 26 is identical to claim 5 except dependent on claim 24 and therefore it should be allowable. Finally, newly written claim 27 is similar to claim 14 but includes the subject matter of claims 1 and 13 from which claim 14 depends. Accordingly, newly written claims 24-27 are already indicated as containing allowable subject matter and allowance of these claims is respectfully requested.

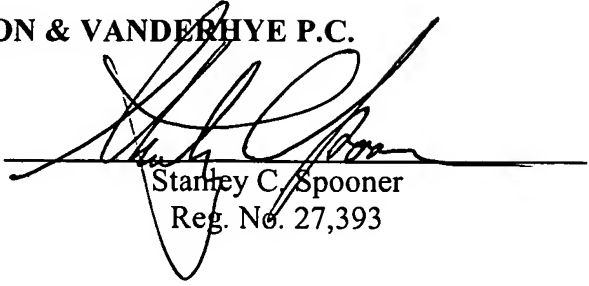
Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that amended claims 1-6, 8-21 and newly written claims 24-27 are all in condition for allowance and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of these claims, he is respectfully requested to contact Applicants' undersigned representative.

HAQ et al  
Appl. No. 10/517,257  
October 20, 2009

Respectfully submitted,

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